

Notice of Allowability

Application No.

10/715,416

Examiner

Anastasia Midkiff

Applicant(s)

DO ET AL.

Art Unit

2882

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to Applicant Amendment dated 18 August 2006.
2. ☒ The allowed claim(s) is/are 1-22 and 24-28.
3. ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 - a) ☒ All b) ☐ Some* c) ☐ None of the:
 1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

* Certified copies not received: _____.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.

THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.

4. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
 5. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
 - (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
 - 1) ☐ hereto or 2) ☐ to Paper No./Mail Date _____.
 - (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date _____.
- Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
6. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

- | | |
|--|--|
| 1. <input type="checkbox"/> Notice of References Cited (PTO-892) | 5. <input type="checkbox"/> Notice of Informal Patent Application |
| 2. <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 6. <input type="checkbox"/> Interview Summary (PTO-413),
Paper No./Mail Date _____. |
| 3. <input type="checkbox"/> Information Disclosure Statements (PTO/SB/08),
Paper No./Mail Date _____ | 7. <input type="checkbox"/> Examiner's Amendment/Comment |
| 4. <input type="checkbox"/> Examiner's Comment Regarding Requirement for Deposit
of Biological Material | 8. <input checked="" type="checkbox"/> Examiner's Statement of Reasons for Allowance |
| | 9. <input type="checkbox"/> Other _____. |

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DETAILED ACTION

Response to Arguments

Applicant's arguments, see Applicant Remarks, filed 18 August 2006, with respect to all rejections of Claims 1-22 and 24-28 have been fully considered and are persuasive. The rejections of Claims 1-22 and 24-28 have been withdrawn.

Allowable Subject Matter

Claims 1-22 and 24-28 are allowed.

The following is an examiner's statement of reasons for allowance:

With respect to Claim 1, the best prior art of record teaches many of the elements of the claimed invention, including an electroluminescent display device, comprising: a substrate; a corrugated structure formed on the substrate, wherein the corrugated structure disperses light through diffraction and reflection; and a first electrode layer, a first insulation layer, a fluorescent layer, a second insulation layer, and a second electrode layer sequentially formed on the substrate to follow the shape of the corrugated structure.

However, prior art does not teach or fairly suggest the electroluminescent device wherein a corrugated structure is arranged in a predetermined pitch in the manner required by Claim 1.

With respect to Claim 3, the best prior art of record teaches many of the elements of the claimed invention, including an electroluminescent display device, comprising: a substrate; a corrugated structure comprising a thin-film layer having a

Art Unit: 2882

plurality of holes formed in the thin-film layer, wherein the corrugated structure disperses light through diffraction and reflection; and a first electrode layer, a first insulation layer, a fluorescent layer, a second insulation layer, and a second electrode layer sequentially formed on the substrate to follow the shape of the holes in the thin film layer.

However, prior art does not teach or fairly suggest the electroluminescent device wherein the plurality of holes are arranged in a predetermined pattern in the manner required by Claim 3.

With respect to Claim 9, the best prior art of record teaches many of the elements of the claimed invention, including an electroluminescent display device, comprising: a substrate; a corrugated structure formed on the substrate, wherein the corrugated structure comprises a plurality of dots arranged, each dot having a polygonal cone shape or a cylindrical shape; a shape of a top surface of each dot is a circle; and a first electrode layer, a first insulation layer, a fluorescent layer, a second insulation layer, and a second electrode layer sequentially formed on the substrate to follow the shape of the corrugated structure.

However, prior art does not teach or fairly suggest the electroluminescent device wherein plurality of dots are arranged in a predetermined pitch, and a relationship between a diameter of the circle and the pitch between dots satisfies a formula of $0.05 < 2 \times D/P < 0.5$, wherein D and P represent the diameter and pitch, respectively, in the manner required by Claim 9.

With respect to Claim 12, the best prior art of record teaches many of the elements of the claimed invention, including an electroluminescent display device, comprising: a transparent substrate; a corrugated structure that disperses light through diffraction and reflection; a first electrode layer, a first insulation layer, a fluorescent layer, a second insulation layer, and a second electrode layer sequentially formed on the substrate; and the corrugated structure is formed on the substrate or at least one of the sequentially formed layers, and at least one of the sequentially formed layers is formed on the corrugated structure to follow the shape of the corrugated structure.

However, prior art does not teach or fairly suggest the electroluminescent device wherein a corrugated structure is arranged in a predetermined pitch in the manner required by Claim 12.

With respect to Claim 18, the best prior art of record teaches many of the elements of the claimed invention, including an electroluminescent display device, comprising: a transparent substrate; a corrugated structure that disperses light through diffraction and reflection; a first electrode layer, a first insulation layer, a fluorescent layer, a second insulation layer, and a second electrode layer sequentially formed on the substrate to follow the shape of the corrugated structure, wherein: the corrugated structure is formed on the substrate or at least one of the sequentially formed layers, and at least one of the sequentially formed layers is formed on the corrugated structure to follow the shape of the corrugated structure; the corrugated structure comprises a plurality of dots, each dot having a cylindrical or polygonal cone shape.

Art Unit: 2882

However, prior art does not teach or fairly suggest the electroluminescent device wherein the plurality of dots are arranged in a predetermined pitch and a relationship between a diameter of the circle and the pitch between dots satisfies a formula of $0.05 < 2 \times D/P < 0.5$, wherein D and P represent the diameter and pitch, respectively, in the manner required by Claim 18.

With respect to Claim 24, the best prior art of record teaches many of the elements of the claimed invention, including an electroluminescent display device comprising: a substrate having a planar surface and a plurality of identifiable geometric shapes projecting from the planar surface, each identifiable geometric shape having a first end integrally formed with the planar surface; and a first electrode layer, a first insulation layer, a fluorescent layer, a second insulation layer, and a second electrode layer sequentially formed on the substrate and following a shape of the plurality of geometric shapes.

However, prior art does not teach or fairly suggest the electroluminescent device wherein the geometric shapes have a second end displaced from the planar surface by a predetermined distance and parallel with the planar surface, in the manner required by Claim 24.

Claims 2, 4-8, 10-11, 13-22, and 25-28 are allowed by virtue of their dependency upon Claims 1, 12, and 24.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably

accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Anastasia Midkiff whose telephone number is 571-272-5053. The examiner can normally be reached on M-F 7-4.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Edward Glick can be reached on 571-272-2490. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

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9/7/06



EDWARD J. GLICK
SUPERVISORY PATENT EXAMINER